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CONVERSATION ON THE NET

by Jerry Michalski

Conversations humanize cyberspace. Knowing people are around adds depth and warmth to the online experience. Interacting with them online can generate surprise, enlightenment, frustration, exhilaration and fear. People are also less predictable and more fascinating than any personalized news feed, dynamic Web page or Shockwave animation. And they can pay attention to you -- maybe.

The buddy list feature in AOL's latest software version (3.0) is brilliant: Instead of seeing only a list of buttons or channels when you log in, you can see which of your friends is also connected, then engage them in typed conversation (and audio isn't far behind; for more on buddy lists, jump straight to page 8). As online services shift to flat-fee pricing, users shift from a "log off the service quickly" frame of mind to "stay online all the time." This change is essential to push the evolution of the communication infrastructure, and it highlights buddy lists as core assets.

Many companies have been adding chat rooms and discussion forums to Websites everywhere. They're doing it for a variety of reasons, ranging from "the consultants said we should" and "our competitors have it," to the realization that building community makes business sense and builds loyalty. One consultant who "says we should" is McKinsey & Co.'s John Hagel, whose new book **Net.Gain** takes a hard-nosed look at the economics of social interactions online and wholeheartedly advises companies to nurture community interactions with and among their customers and prospects.

Online conversations are burgeoning despite the fact that most conversation tools are hard to use and the conversations themselves -- especially the live ones -- are mostly nonsense chatter. People waste hours asking what city others are from and their age and sex. In fact, few of these online conversations are as satisfying as your average phone conversation. Particularly for Web-based systems, performance is often slow. Small details also make a big difference. Many systems haven't resolved simple user-interface issues.

All those steps

The pain you have to go through today to "talk" with people on the Net makes you appreciate the phone system's maturity and simplicity. Online, you $\implies$ **CONGRATULATIONS, ROBYN; WELCOME, JUSTIN!**

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first have to find spaces you like, or people you like who use the same on-line service or have the same conversation software as you do. Usually the tools are dictated by your service provider: If you subscribe to CompuServe, you get to use its built-in chat and bulletin-board systems, but only with other CompuServe members. (Recently most commercial online services, including CompuServe, have started to offer access to normal Internet conversation systems.) This is probably the simplest solution.

If you have the luxury to pick a tool, then you have to choose, find, fetch, install and learn to use it. Chances are it will work only with other versions of itself. This holds true for more than just text chat tools. There are many flavors of Internet phone, almost none of which will talk to the others. (Online telephony and videoconferencing vendors are ironing out interoperability standards and making their systems compliant.)

The growing use of standard Web protocols such as HTML for chat and discussion functions reduces the burden of loading special software, but it introduces limitations and latencies that can take the joy out of communicating. Every button you click on invokes a new Web interaction. Behind the scenes, a server or database generates a Web page for you on the fly and ships it off... slowly. Text entry in Web fields is only slightly better than in a line editor. Upcoming versions of HTML offer more local code and object storage, which should help interface designers and make end-users happier. Many developers are also using Java and ActiveX.

You have to want to talk

Regardless which technology you want to use, you still probably have to register for a particular conversation space, which entails filling out forms and answering questionnaires. Finally, you have to find your way through the torrent of topics to the ones you are interested in -- and participate. It's overwhelming; you have to close your eyes and jump in.

Knowing more doesn't make all the problems disappear. Once you master a few tools and start to feel like you know what's going on, you still have problems such as deciding which conversations to hold in which system. Should you discuss this on the mailing list or on the Web forum? Who has access? Who will show up? How will you let them know? Should you post some messages in both spaces? We're part of several groups having exactly this problem with their online interactions.

To go through all of this, you have to be pretty motivated to converse online. For you to remember to return, it has to feel pretty rewarding.

Simplify, simplify

This issue of Release 1.0 examines how a variety of conversation technologies -- from chat rooms and discussion databases to buddy lists, shared documents, 3D avatar spaces and Internet telephones -- might converge over time to form a simpler, more useful communication environment. In the process, it covers interface-design issues and the boundaries and transitions between different kinds of conversations (e.g., why is it so hard to invoke a live chat from an item in a discussion database?).

We expect such a system eventually to replace today's default communications interface -- the dial tone, the touch-tone keypad, the busy signal

and voicemail. Buddy lists play a surprisingly important role in the process. They act as hubs from which people can join a variety of conversations: real-time and deferred; voice-, text-, video- or avatar-based.

Thinking broadly about the creation of a powerful communication system instead of dealing with the tools individually opens new business models and competitive strategies. If you focus only on chat, for example, the potential business models are interesting but clearly limited: Chat software vendors compete with pretty decent freeware packages and try to sell banner ads. That's not compelling. The high ground in this contest is developing and licensing the communications interface of the future that everyone will use -- the thing that will replace the dial tone and busy signal -- as well as the back-end services it will require.

Of course, this transition will probably take 10 to 15 years, so why worry about it right away? It's all too easy to say that it will take an incredibly long time, but realistically, the components needed to build a more-than-adequate solution are present now.¹ Companies that get motivated to solve these problems right now will get early lock-in as the interfaces and back-end systems of choice.

Documents that socialize

In the October 1995 issue of this newsletter ("The social life of documents"), Xerox PARC's John Seely Brown and Paul Duguid posited that documents are the border objects of social interaction -- they can be the containers, context and launch pads for thoughts and discussions. This month we suggest concrete tools to enable documents to foster many kinds of conversations. For example, a byline or name reference in a document could be a springboard for different kinds of conversations (see box, next page). From this perspective, documents are conversation spaces with content.

Beginner's mind

Developers must overcome the legacy of history and the world view it has left us, which is full of artificial separations. They must achieve the Zen state of beginner's mind: Know a lot about what has gone before, and then forget it all in order to invent something new and more useful.

¹ A brief rant: Unfortunately, the physical and services infrastructures that support online conversations are a mess today. The technology landscape is littered with computers that crash all the time, cable-system operators who continue to build one-way systems and phone-company executives who aspire to be content moguls. Most transport companies still build systems around architectures ill-suited to carry the traffic we will see in the future. Instead of rethinking the architectures and moving to make their systems obsolete before someone else does, they fritter their time on short-term defensive maneuvers such as raising online access fees and slowing down competition (see the economics of connectivity, Release 1.0, 12-95). The good news is that the higher-level software and services can be improved and integrated now, despite the underlying mess.

A modest proposal: The <CommunicateWith:> tag

The <MailTo:> HTML tag is quite popular. It allows you to click on a person's name on a Web page and automatically send an e-mail message. This is how "send your comments to the Webmaster" and bylines are usually handled on the Web. It's a powerful feature that's easy to understand and use. It also illustrates wonderfully how documents can be springboards for conversations.

Now imagine turning the springboard into a trampoline by amplifying the <MailTo:> tag. Replace it with a new tag -- call it <CommunicateWith:> -- which can bring up a dialog box instead of going straight to the e-mail client. The dialog box would have two sets of three buttons, as illustrated below.

	Text	Voice	Video
Now	Chat	Phone call (or Internet telephony)	Video- conference or CU-SeeMe
Later	E-mail	Voicemail	CamCorder (video mail)

The new tag answers the question, "How would you like to communicate with this person?" It works just like the old one, except it has a wider array of options. The options vary by timing (communicate now or later) and mode (use text, voice or video). Click on the box at the intersection of "later" and "text," and your e-mail client pops up, just as it does with the <MailTo:> tag.

Click on any other box and the appropriate tool pops up. For example, now/text (live chat) could invoke Tribal Voice's PowWow client; now/voice (live audio) could invoke OnLive!'s Talker or dial a conventional telephone. If the system knew whether the user was available, it could gray out choices. The user or network administrator could configure each option with a specific tool or service.

One final feature: If the tag supported vCards, users could store the contact information permanently with a simple drag-and-drop to their PIMs or address books (see Release 1.0, 9-93).

Real-time conversations are separate from deferred ones; structured discussion tools are separate from unstructured ones; social spaces are separate from commercial. Even when commercial Websites offer discussion spaces, they don't make it possible for one participant to give another an electronic discount coupon.

The pervasive separation between applications and the bewildering array of features make it hard for people to make choices. The lack of integration forces default choices (you use only CompuServe's chat system), instead of making transitions or extensions natural and allowing for personal preferences. Companies must frame the tools and features in ways that are more intuitive and useful.

We are optimistic that this will happen. As developers integrate and simplify the tools and underlying services, communication will get easier, which in turn will make it easier for us to start and maintain relationships -- commercial and personal. Tools will no longer get in our way.

Boundaries, transitions and choices

The action is at the boundaries, finding ways to add shared audio gracefully to a multi-party chat space, or designing an interface that makes it simple to respond to a voicemail message with e-mail.

Too many aspects of today's interfaces are governed by historical accident. People who want to communicate should face simple choices, such as, "Do I want this thought to stay online for others to read it later, or is it evanescent?" A technologically knowledgeable person would interpret that as, "Should I post this in a discussion forum or send it as e-mail?"

Communicating has several other important dimensions, including the size of the audience (one person, a half-dozen, a few hundred or the whole online world); the choice of media (plain text, audio, 3D and others); the level of formality and production (typo-ridden e-mail, company memo or board presentation) and the level of identity disclosure (anonymous, pseudonymous, voluntarily identified and digitally authenticated).

Some items may start out as quick, expendable thoughts but may later seem more important and deserve highlighting and preservation. We think of a person who finds such gems and calls them out as an online gardener, coaxing the essence and beauty from an otherwise chaotic string of postings.

The range of options

As a result of many experiments and product introductions, today there is a bewildering variety of conversation tools on the Net. They include real-time chat systems; discussion forums or bulletin boards; simple e-mail and mailing lists; Usenet newsgroups; proprietary discussion systems such as Lotus Notes; real-time audio, video and shared-work tools; plus a manic profusion of multi-player virtual spaces, including text-only MUDs and MOOs,² 2D chat spaces, multi-player games, animated 3D spaces and immersive VR experiences. We have covered many of them previously, under a variety of topics, and we summarize them in the following section, focusing on their ease of use, reach (effective audience or group size), flexibility, navigability and persistence.

 2 MUDs are Multi-User Domains, Dungeons or Dimensions; MOOs are MUDs that are Object-Oriented. Both are persistent text worlds where people gather to create characters, places and even devices or events -- all in text.

The first two categories of conversation tools, chat and discussion forums, are the subjects of the middle sections of this newsletter, so we hold their descriptions until then. Here are brief summaries of the others.

E-mail: Through rain, snow, sleet and hail

The stealth conversation tool is e-mail, which now transports more rumors, deal details and love notes than ever. Its lever is the tool we love to grouse about: the mailing list. Some of the most useful conversations happening on the Net today are on mailing lists, which simply reflect messages sent by list subscribers to the e-mail addresses on a list. Groups that used to meet once a year at their discipline's annual convention and present papers to each other are now working through issues all year round in e-mail and using the annual convention to schmooze and bond.

The best feature of e-mail conversations is that most Net-savvy people with affordable access have e-mail running all the time, so messages arrive expeditiously (granted, this is a small number of people today, but it's where we're all headed). But a few interesting messages can soon turn into a torrent of unneeded mail, and mailing lists are fiendishly hard to manage. They don't allow for threading or archiving (aside from HyperMail³ and a few others).

Because users can't tie the messages together and view them as a thread, the default protocol is quoting previous posts by copying the text into the response, usually set off with initial ">" symbols. In threaded systems, you simply post your reply because the original text is available earlier in the thread.

List administrators also have a hard time managing mailing lists. Undelivered messages that boomerang back make mailing lists more work to maintain than other conversation technologies. Worse, though, most of the mailing-list packages available today require a technician to set up and manage.

It would be great if anyone could set up a mailing list on a moment's notice. They could give it a sunset date, allow the system to set up a subscriber-maintenance Web page automatically and put its address on the footer of each message sent to the list. It could offer a choice of HyperMail-style archival. The subscription process needs automation, too. When someone subscribes to a list, the mail client could automatically generate a filter rule and new folder, then store the list address in its address book.

The Usenet

Newsgroups are one of the oldest conversation tools on the Internet and probably the most likely to fail. Until recently, they never had a decent user interface. The newsreaders most people use are mystifying and pretty hard to use. Now Netscape has based the discussion technology in Communicator (Navigator 4) on newsgroups, enhanced with Collabra's discussion capa-

3 HyperMail turns archived mailing-list messages into linked Web pages automatically. It was created by Tom Gruber, now with Intraspect, when he worked at Enterprise Integration Technologies (now part of Verifone). EIT still owns HyperMail and licenses it for free. See Release 1.0, 6-95.

bilities. This is Netscape's bid to compete with Notes and Exchange; we're not convinced it will work yet.

The Usenet is fragile because it is growing out of control and hasn't found a mechanism to naturally subdivide the conversations into manageable numbers of participants. Although the system is structurally organic, with flows of bits washing across the Net from server to server, the overall system is monolithic. Yes, groups can and do define their own, local newsgroups, but the larger system still struggles to stay together.

Proprietary discussion systems

Lotus Notes has dominated this category. In fact, it was the original stimulus for the term "groupware." Microsoft's Exchange was designed to be a Notes-killer, but it took so long to get to market that the Internet sprang into the collective consciousness in the meantime, foiling plans for both Notes and Exchange. Now some companies such as RadNet are trying to emulate Notes' functionality using plain Internet tools.

The Notes Domino server does a great job of making Notes' capabilities available to Internet applications and services, but it does little to clear up the confusion of what should go where and how it all fits together. There are many things that Domino is good at, but overall the product hasn't advanced our concepts of messaging, publishing and communicating.

Real-time tools

There is an astonishing number of real-time conversation and collaboration tools on the market, ranging from videoconferencing systems and Internet phones to shared-screen document systems. The ones to watch today are Microsoft's NetMeeting and the Conferencing element of Netscape Collaborator (formerly CoolTalk). Both represent useful first steps toward a new interface that manages multiple media and collaborates with address books and network directory services.

Multi-player virtual environments

Games have always presaged commercial features. Pong was a glimpse of the direct-manipulation interface that now rules the desktop. Now multi-player games are getting popular, aided by the Internet's ubiquity, and they will introduce us to a series of new ways of doing and knowing things. Microsoft has been active in the game world lately with its DirectPlay technology and game lobbies.

Increasingly, games are social. They combine real-time chat with intense interactivity -- or even combat. The clever ways that game developers provide to let people invite others to play games are great examples of user interface elements of the future.

What AOL has learned

If you want to learn about the dynamics of online conversations on a large scale, ask AOL. Its numbers speak for themselves. According to Myriam Grossman's *AOL Insider* report, at peak hour in mid-January there were over a quarter-million of its seven million subscribers online at the same time -- as many people as live in Rochester, NY -- many of whom were occupying any of 13,600 chat rooms. On the same day, AOL subscribers sent and received roughly 18 million individual messages (9.3 million pieces of mail in the

system, each averaging two addressees). AOL subscribers, not an idle bunch, also sent each other 67 million Instant Messages that day (IMs are AOL's version of two-party real-time chat). And all those numbers are climbing swiftly, especially with the new "all you can eat" pricing plans that have stressed the service's capacity so much lately.

One reason for AOL's popularity is that its conversation tools are well designed and convenient. You don't have to get your friends to download some Internet Relay Chat interface (e.g., GlobalChat) or register on some discussion Website (Salon). Not content to rest on its laurels, AOL continues to improve its chat, IM and bulletin-board functions. It probably has some of the best such systems available today, though there are always features one wishes they would add.

AOL's traditional tools have fared well against the flurry of new conversation technologies. The company periodically holds week-long focus groups to test new chat systems. On the first day, it presents testers with a wide variety of tools, ranging from simple chat interfaces to two- and three-dimensional multi-user spaces that feature flashy avatars and word balloons. On the second day, most participants are happily trying out the fancy tools. By the last day, however, most have reverted to AOL classic chat. AOL is in the process of adding images to its messages and chat functions, but the basics are solid.

Will you be my buddy?

One new feature, the buddy list, makes upgrading to AOL's new 3.0 release all but mandatory. It's a pretty simple concept (imagine the Unix finger command or the System 370 QU command made easy to use). You add your friends' AOL user IDs to a buddy list (you can set up several) and turn the feature on. Every time you log in, a small window will go up on your screen. If any of the people in your buddy list are online at the same time, their names will show up in the window. Otherwise the window is blank. It's quite cool to see people come and go.

The buddy list is not itself a chat feature, but it links easily to AOL's several chatting technologies, such as IMs and chat rooms. In fact, you can highlight several names on your buddy list and invite them all to a chat room. All they need to do is click a button to accept your invitation and off you all go.

The feature is wildly popular. Already, 4.4 million AOL subscribers have started to use buddy lists, which were invented by AOL's vp of systems development Barry Appelman. Buddy lists are kept on AOL's server and receive a feed from the login subsystem. (The buddy list and the e-mail address book are two different software elements. More on that in a moment.) The buddy server notes users who log in, checks who has asked to be notified and sends updating signals accordingly.

Not quite buddies

Buddy lists are also controversial. Some people refer to them as "stalker lists," since it's easy to put anyone's user ID in your list and know when they log in so you can go pester them. (You can't track where in the system they go; you just know when they log in and out.) Users who haven't up-

graded to the 3.0 software can also turn the feature off, but it's hard to know about and do, so they're likely to get unwanted attention from people who seem to know exactly when they've gone online.

There are defenses: The buddy list's interface allows you to enter user IDs that you don't want to allow to buddy-list you. You can also reverse the settings, so that nobody can put you on their buddy list except for people whom you explicitly permit. But the default setting is positive. Says Appelmann, "The tendency has been in building community to give people the choice to opt out. It's a real community-killer to have to take positive action to show up." PeopleLink, described below, solves this problem by making "buddying" consensual: You can add people to your buddy list only if they agree to be put there.

Shockwave riders

Buddy lists offer a glimpse of the future -- of how we will "dial" each other ten years from now, when we're connected all the time (because we choose to be, not because we have to be). The feature has already dramatically changed AOL employees' behavior.

AOL employees are always logged in to AOL, so they use it for all their communications. The protocol for calling a colleague is first to check whether he is online (if the name's not on the buddy list, you use AOL's locator function), then send an IM before calling, asking if this is a good time to talk. A "You there?" IM is typical; no response means you're not. The "caller" assumes you walked away.

Employees often use IMs to negotiate a time to call. Note that they still have to dial the phone. Of course, this raises many new protocol issues. How should one handle IMs while on the phone? Is it polite to accept the IMs and type away -- on a different conversation -- while on the phone?

Extending the concept

Buddy lists aren't peripheral; they're central, especially if you take them a step or two further than their current early designs. Today they offer only information about whether someone is connected or not. As we move toward full-time connectivity, that will seem silly and insufficient.

Buddy lists need more resolution, so they can become real communication tools. The key missing piece of information is status. The lists need to offer more information about people's availability and for whom or what, (see box). People need an easy and intuitive way to indicate whether or not they would like to be bothered and by whom, without divulging more information than they are comfortable with. For example, a stranger calling might get the "please leave me an e-mail or voicemail message" treatment automatically. A close colleague might be allowed to peer into your calendar to note that you're in a meeting. In fact, the meeting notice could help that person track you down by linking to the person you are meeting with or offering the phone number of the conference room you're in. But we're getting ahead of ourselves.

Think of buddy lists as the way you find out what people are up to, within bounds, so you can decide whether and how to communicate with them.

Can we talk?

Today we dial someone's phone in order to find out if they can talk with us. Why not answer that question sooner, so they don't have to call just to find out? To do that, we need new on-screen affordances -- a set of icons that define how available we are and that sit right next to the names on buddy lists.

We can easily envision five primary settings: taking all calls, filtering calls, busy (do not disturb), away for a minute and away on vacation. The first is obvious. The second requires a standard way for callers to present themselves (e.g., the vCard) and rule-based filtering software that could be as sophisticated as the user can define. Calls that don't make it through the filter simply go to the message bin as e-mail and voicemail. That's exactly what happens to all calls on the "busy" and "away" settings, which offer callers slightly different information and might include a "talk to my assistant" module. The "vacation" setting might include how long you are away and who is acting as your proxy while you're away.

To make this work, we will have to choose settings that work for us. Some people will stay on the "filtered" setting. Others may connect the setting to their calendars, so that five minutes before they head for a meeting or start a conference call the icon turns to "busy." Of course, they can override it at any time, but the effort they put into updating their calendars now pays off by helping manage incoming calls and messages. In the end, people have to be comfortable with how much information they are giving out. We believe people will offer a little information in order to make communications smoother. That's the benefit.

Buddy lists become the start of a nifty hierarchy of tools to handle conversations with intimates and strangers. You will initiate conversations with people you work with all the time from your buddy list. People you've contacted before will be in your address book, and you'll find strangers' names in Net directories or on Web documents everywhere, waiting for you to scoop them into your address book. If you're responding to someone's message, you will probably use the same medium that they used to contact you, but you may want to switch media -- say, answer an e-mail with a phone call. Your message system should make that easy.

The address book is the natural place from which to manage it all. You put people on your buddy list by flipping a switch in the address book. You find people in directories by launching a search from the same address book. The perfect PIM would be an address book of this kind that adds attributes and features to the records it stores (see box, across).

There is also an important role in this process for directory services such as Four11 and WhoWhere?, although ideally they become background services. If these directories become back-end services, their banner ads won't be very visible, so the directory companies may want to encompass new functionality (such as buddy lists) or move to applications that are closer to end users, such as managing affinity groups or mailing lists.

The PIM's central role

This evolution toward communication opens a huge opportunity for PIM vendors, though they're too busy competing right now in the traditional PIM space to see it. Companies such as Lotus (with Lotus Organizer and Notes), Claris (Em@iler, FileMaker and Claris Organizer) and NetManage (Ecco and a bouquet of Internet tools) are especially well positioned, yet they haven't seized the opportunity at all. Microsoft is trying with Outlook, the PIM-plus that is part of Office 97, but Outlook is so completely tied to Exchange that it isn't useful to people and companies who prefer plain Internet tools.

Meanwhile, Netscape Communicator (now in early beta) includes a lovely and powerful address-book function that can run across the Internet to query remote directories (using LDAP, the Lightweight Directory Access Protocol), then capture individuals' address information. There's no reason to retype a thing. Or you can use vCards on Web pages and drop them into Communicator's address book. Now imagine your favorite PIM functions fitting around this core feature set.

Six months from now, don't buy a PIM that doesn't support LDAP, vCards and vCalendar.

PEOPLELINK: MAKING CONNECTIONS ONLINE

AOL's buddy list works only with AOL subscribers. You can't use it to keep tabs on people on the open Internet. But PeopleLink, the first company to reach escape velocity from Bill Gross' IdeaLab! incubator, is creating exactly such a system. The first beta release of the buddy-list product, also called PeopleLink, is relatively simple, but it offers a solid foundation and plenty of room to grow.

The PeopleLink application is functionally similar to AOL's buddy list. It sets a small window in a corner of your screen. When friends arrive online, the application can alert you. (The client software is set to check the PeopleLink server every five minutes or at any interval you set.) If you want to chat with them, you expand the application window, select whom you want to chat with in the list of names and type away in the chat area.

Easy referrals, less danger

The application makes clever and explicit use of word-of-mouth marketing. When you enter a new buddy's e-mail address, PeopleLink checks to see if they're registered. If they're not, it creates an invitation e-mail message in your name. That message walks your friend through the download and sign-up, and voila.

One of PeopleLink's best features is that adding people to buddy lists is consensual. You can't add a person until they have approved it. Each time you log in, you see the names of people who want to add you to their lists. Everyone's buddy-list information is kept on PeopleLink's server.

Plenty of potential

The company's goal is "to create community-building tools and services to improve the way people meet and communicate online." More specifically, it wants to offer *selective* communications by helping people form and join relatively private affinity groups. In fact, many of the features now being added to PeopleLink are tools for affinity groups, such as privacy-enhanced directory services (e.g., only allow my name to be searched by other Bar Association members) and customizable clients, so groups can add their own brand to the PeopleLink service.

The company's other offering, ChatCall, is like 900-number party-line services: It uses the Internet as a safe "lobby" to help people connect with others on the phone. One person can pay for both sides of the conversation; neither party needs to divulge its phone number. PeopleLink expects to use the buddy list to sell ChatCall minutes and ads. When it is released in March, PeopleLink will be available only under Windows. A Java version is under development for release a few months later.

The company's president is Steve Glenn, who was previously co-director of the Virtual Reality Studio at Walt Disney Imagineering. Glenn clearly sees the potential in the PeopleLink application. Although the system can't yet invoke other arbitrary communication tools, Glenn has developers adding that code now. The system doesn't yet sport the extra status and availability indicators described above, but no such application does yet. Ideally, you manage your buddy list from your main address book, rather than having to manage names in yet another address book.

CHAT 'N CHEW

Chat isn't for everyone. It's slow torture for the QWERTY-impaired. It's impersonal for people who prefer the warmth of voices and handwriting to the icy look of naked ASCII on a computer screen. But for people who have tasted the immediacy and playfulness available in simple chat systems, text is a wonderful medium full of texture and its own dynamics. For example, unlike a noisy cocktail party where the loudest voices drown out the rest, every participant in a chat room has an equal chance of being heard. Despite all the bad press, online chat has ardent fans.

Over time, chat has had many manifestations, from Internet Relay Chat and Unix ntalk to MUDs and MOOs, with many variants locked in proprietary computer or messaging systems. Chat is seldom persistent. That is, in most cases the text disappears from the world when it scrolls off the top of someone's screen. However, many people save their chat sessions. In fact, the ability to turn on a session recorder may well help raise the quality of interaction in the chat session -- especially if it is accompanied by a snazzy "on the air" light or other affordance that makes it clear that what is said is on record.

Scale

Chats have certain optimum sizes, which is the main reason chat rooms in on-line services hold a limited number of participants. Big chats require special equipment such as auditoriums, which are designed to limit interaction in the audience by putting people in "rows." The format doesn't force everyone to be silent, but it also doesn't endanger the main guest with drowning in the crowd's chatter.

Software auditoriums are hard to design well. For example, being a guest on "stage" in an AOL auditorium is pretty unsatisfying. You can't "hear" anyone in the audience. All of your time is spent whacking away at the keyboard to answer questions as quickly as they're thrown out, except they're all handled by the moderator first. You end up neatly isolated on stage and unable to see who is listening and hear what they care about. For someone who likes to connect with an audience, it's pretty unfriendly. The auditorium features in the other commercial online services are similarly limiting.

It would be useful, for example, if audience members could register their agreement or disagreement with what the speaker is saying at any time by marking their seat in a virtual seating plan with the colors red, yellow or green, for instance. The speaker could get a quick feel for real-time audience response and even zoom in on particular dissenters to grill them. We used such a tool in a recent face-to-face conference to great effect.

Guess what? Sometime this Spring, a new Xerox PARC spinout called PlaceWare expects to launch a Java-based product that fits this bill.

Audience participation

PlaceWare has built an audio-enabled platform that will allow developers to create Web-oriented environments in which large communities can engage in fun and useful real-time interactions. The platform is the brainchild of the PARC team headed by Pavel Curtis that created LambdaMOO and the Jupiter multi-party conferencing enhancements to it (see Release 1.0, 8-94).

Curtis' team has wrestled for many years with thorny issues of large-scale, highly distributed multi-user online spaces. When we last covered them, they were considering building a system with Agorics' Joule language, which was designed specifically for such applications but proved infernally hard to learn and use.

Curtis and his team left Xerox to join PlaceWare, where Xerox is a minority investor. PlaceWare's president is Bill Shott, formerly the vp of marketing for Network Computing Devices.

iCHAT: MORE THAN A PARLOR OR BILLBOARD

Recently, Yahoo! selected iChat as its real-time chat technology, joining 400 other licensees and a few important ones that are almost ready to be announced. The upcoming deals should make iChat loom larger on the industry radar screen than it does now. The company is off to a great start.

iChat participants can choose between a plug-in client, a Java version, HTML and plain text; the server has many different ports, including some for older telnet and IRC clients. Of course, whichever way they choose to participate, the chat text is still the same; other features may vary, such as avatars and scrolling marquees.

The iChat interface reserves half the screen for ads or Web pages, which licensees can turn into revenue sources. The medium appeals to advertisers because participants' average session lengths for chat are far longer than for Web browsing, a point that Andrew Busey, the company's young and energetic founder, is only too happy to make. But Busey is onto far more than chat and in situ user conditioning through ads. He sees the role that chat plays in a larger communication environment and is moving to write the code that pulls the right elements together.

The primordial MUD

In 1993, Busey, a longtime MUDDer in college, wanted to create an Internet place where people could walk around and chat called Virtual City. To build it, he wanted to find funds and license NCSA Mosaic, but venture capitalists greeted him with, "the Internet will be killed by AOL and CompuServe." Instead, he joined Spyglass as product manager for Mosaic. He later left Spyglass and moved to Austin, where he started consulting and wrote a book on MUDDing for MacMillan (**Secrets of the Mud Wizards: Playing and Programming MUDs, MOOs, MUCKs, and Other Internet Role-Playing Games**, available at Amazon.com).

One of his clients, Concentric Networks, asked him to do some custom work to create a chat client. Leveraging that work, he founded iChat and raised \$6 million several months later, primarily from Onset Ventures and the Ziff brothers (fans of chat and MUDs). To get a chat server up quickly, Busey bought a MUD server from developers in Amsterdam whose code he admired. The iChat team wrote Web components atop the MUD server in late 1995 using its LP-C programming language (it will probably migrate the code to Javascript). The company shipped its first product in early 1996.

Futures

The server's MUD roots allow iChat to offer persistent spaces. The upcoming 3.0 release of iChat will include avatars with MUD-style gestures, a pager function (to locate other users) and threaded discussions. With these tools and solid multimedia support, participants will be able to include streamed audio in their posts, solicit chats with others and more. The iChat team also intends to add support for the Moving Worlds dynamic VRML specification. Perhaps most interestingly, iChat is building a more advanced and generalizable buddy-list feature, which will allow it to move beyond chat and into broader communications.

A cast of thousands

There are, of course, many other chat offerings on the market. AOL's nifty Virtual Places (see **Release 1.0**, 2-95) is about to debut a major software release. OnLive! now offers its multi-party audio technology as Talker, separate from the 3D avatar heads in its Traveler product (see **Release 1.0**, 11-95). Budapest-based E-Pub, which runs the Cosmic Cosmo Web trivia game, has developed scriptable Java chat with funny, customizable themes -- a poor man's Palace. (Disclosure: Esther Dyson is an investor in E-Pub.)

Paralogic offers paraCHAT, a free Java chat system that it claims Webmasters can add to their Websites with five lines of HTML. WebChat Communications has started the WebChat Broadcasting System with yet another Java-based chat client. Global Chat still uses IRC servers and requires users to download and install a client application. Its major funding is from banner ads on the client screen; no surprise there.

The market for chat systems is getting crowded.

LET'S DISCUSS

As often happens during our research these days, we discover a few rich sources of information on the Web that are great starting points for a tour of our topic. This month's find is David Woolley's Website, which lists and points to many asynchronous discussion tools (see Resources, page 22). Woolley developed Plato Notes in the 70s, which was the messaging component of the Plato system and a precursor to Lotus Notes.

We should also note that the tools described in this issue are seldom used alone. People posting to a discussion send each other e-mail or start private chats. They create subchannels that make the conversations more complex -- and often quite devious. Something someone is saying privately in one sub-channel is easily copied to another or forwarded to a list.

Early threads

Whatever you prefer to call them -- boards, forums, conferencing systems or discussion databases -- asynchronous online conversation tools have been around almost as long as computing itself. The more venerable systems include EIES (the Electronic Information Exchange System), which Murray Turoff and Roxanne Hiltz developed at the New Jersey Institute of Technology; Confer at the University of Michigan; Participate, a sophisticated system on The Source, which was later bought by CompuServe, where it still exists; and Control Data's Plato, which was used primarily for education.

The middle generation includes PicoSpan, which the WELL uses; Caucus, which Echo and the Meta Network use; and a variety of BBS (Bulletin-Board System) companies, including Mustang Software, eSoft and Galacticom. Until recently, the interface of choice to almost all these systems was Telnet and VT-100 terminal emulation.

The newest generation, which includes Caucus (an all-new Web version), WELL Engaged, Web Crossing and COW (Conferencing on the Web), raises a new set of questions. Do you use Frames, Java or ActiveX? What server, transfer protocols or database do you use for the back end? Can you outsource our conferencing function entirely? What other access methods and media formats does your system support? Exactly how customizable is it? Can we embed custom HTML? Should participants be able to see the messages they are responding to, or do messages appear in separate windows? What kind of editing tools do participants get to use? Can they upload their pictures and attach them to postings?

To branch or not to branch

Underneath it all lurk the same old fundamental questions about structure, flow and interaction: Should the system be linear or hierarchical? Should it allow cross-posting or other kinds of links among topics? Among systems? Should participants be allowed to edit or remove their old postings? How should they be disciplined? Whose job is that? How will participants identify themselves?

Mike Godwin, special counsel for the Electronic Frontier Foundation and marathon online poster, believes that online conversations are naturally linear. He prefers simple, non-branching systems such as the WELL's Pico-

Span. He also prefers the faster, simpler text interfaces; none of the Web forums appeal to him. Another feature Godwin prizes in PicoSpan-type systems is their archival depth. Unlike the Usenet or AOL, where old messages disappear, you can read some of the earliest postings on The WELL and other small systems. That offers new entrants a useful (if sometimes overwhelming) way to learn about the participants, the topic and the rhythm, and enter the conversation appropriately. (Deja News does archive Usenet postings, but you can't reliably find all the original messages.)

Subtle points

The variety of techno-questions masks the fact that many of the things that make online conversations work are quite subtle. Smart people disagree on many of these issues, but it seems that the intent to pay attention to and improve conversations seems to generate better conversations -- even when the tools are as primitive as can be.

In some cases, the tools' lack of polish or fancy features actually helps conversations. Mastering the tools becomes a rite of passage -- a way of bonding with other people in the system. That's how many people got to meet others on the WELL, which uses PicoSpan. It's also how the early Internet community formed such strong bonds and norms. People learned to use the medium to talk by sitting through some initiation sessions with a friend or colleague. Then they put in some hours reading FAQ files or maybe even writing them, thus improving the medium for others. Crummy tools give people lots of meaningful things to do together (though we don't offer this as an excuse!).

Another explanation is that simple tools eliminate fussy decorations, grandstanding and excessive focus on the tools or the environment. That's one of the things that Stewart Brand, one of The WELL's founders, likes about PicoSpan. It promotes terse, immediate communications while it implicitly excuses formatting gaffes.

Simple things can be quite powerful. Peter and Trudy Johnson-Lenz have worked with online collaborative and conversational systems for years. One of their many experiments is the use of simple banners (no, not advertising banners) that show up each time participants begin a session in a conversation space. The banner asks the participants to relax and center themselves for a few minutes before they enter. There is no timer or lockout feature; they can enter right away if they wish. But the request can change the nature of the space beyond it.

Not-so-subtle points

Most of the new discussion forums going online are funded by sponsors or advertisers. A few charge subscription fees: The WELL charges membership fees; Cafe Utne has a voluntary fee of \$36 a year.

The major commercial online services have rented private "space" on their services to corporations for some time, effectively creating private online environments with all the services features and functions, such as the AOL-based Century 21 service. But most of the small technology suppliers in this market simply license their software to client companies.

WELL Engaged is the first of the smaller companies to offer a complete, turnkey hosting service. Discussions run on WELL Engaged's servers in Sausalito, CA. Client companies don't have to load software or focus on Internet traffic problems or server uptime; they can outsource it. This model makes sense, just as Website hosting does. Other companies will likely follow WELL Engaged's lead.

WELL ENGAGED: HOSTS FOR HIRE

Bruce Katz, who bought The WELL in 1994 (see **Release 1.0**, 6-93), had been looking for a more modern conferencing system than the service's PicoSpan software, with little success. So he funded a project to develop one based on Web protocols.

In May 1996, Maria Wilhelm left her job as deputy editor of Time/Warner's Pathfinder to join The WELL as its president. At the time, WELL Engaged was under development. In July, the Wall Street Journal signed up to use the system for discussion forums during the two US political conventions. In September, Wilhelm proposed that WELL Engaged be incorporated separately; she is now president of both companies. The Journal is WELL Engaged's biggest client, but others are catching up, including Electric Minds, CMP's TechWeb, Quote.com, Computer Curriculum Corporation, Playboy and Lifetime.

Based on data

Aside from its turnkey host business model, the other distinguishing feature of WELL Engaged is that it is built atop a standard relational database (Oracle's now, with ODBC and NT database support under development). This makes it easier for the system to offer powerful features such as user tracking and text search.

WELL Engaged is more consumer-oriented than Caucus (profiled next), which has focused a lot on corporate conversations. WELL Engaged doesn't require Java or plug-ins. Participants can set up profile pages and add URLs, e-mail addresses and internal links to their postings.

Wilhelm and the technical crew are thinking broadly about the issues of communicating online. In the next few months, they will add a GoLive feature that adds real-time text chat to the discussion forums. WELL Engaged is quite customizable; client companies can give it different looks to suit their purposes. Electric Minds is a good example.

Electric Minds

Howard Rheingold is a fluorescent personality online as well as off. For many years, he was a core rabble-rouser and community builder in conferences all around The WELL. Last year, he decided to do something about it, so he founded Electric Minds, with the intent to create a unique online space that would foster creative and thoughtful discussions.

He recruited hosts, editors and correspondents from around the world and left them in their home countries, to add global flavor. Electric Minds combines editorial and conversations in a unique way. Position pieces are set next to callouts from the discussion threads, so participants can jump

straight into the discussions at a place that interests them. Staffers also put links to great Net resources and conversations right next to its own conversations, so people can count on Electric Minds as a valuable jumping-off point on important topics.

Electric Minds chose WELL Engaged as its service platform and requested customization that gives it a unique look and feel with some off-the-wall design concepts. The site has attracted 25,000 registered users in its seven weeks in operation, as well as recognition as a thoughtful and interesting Web presence.

CAUCUS: CONVERSATIONS BLOWN INSIDE-OUT

The new, year-old version of Caucus for the Web is hardly comparable to the Caucus of old, which was similar to PicoSpan. You can get an idea of how radical the change has been by listening to Tom Mandel,⁴ the president of Screen Porch, the company that developed it. "We believe people will build groupware by taking the functions they want from the software they want and combining them," he says. "When you're talking about a context that's changing as quickly as the Web, it's a mistake to lock people into a particular set of tools. When some neat new application or data type comes up on the Web, we want to be able to put it right into a Web conversation."

Mandel believes that the Web explodes conversations, and he is wonderfully focused on using that insight to improve conversation space and process. "Everything that doesn't create a collaborative space needs to be set aside," he says. He wants Caucus to offer a completely configurable and programmable platform, so the conversation space can mirror the conversational flow requirements of the organization. Mandel challenges, "Look at what people say in a Caucus conference and compare it to other forums and you'll find more informality, quick thinking and open interactions in forums that use Caucus."

Serious business

Caucus has attracted many serious business customers. The US Department of Defense is using it for discussions of a new healthcare-management system. An office-supply company's senior management is using it for its re-engineering process; managers just below the executive level use it to discuss broader company issues.

For corporate uses, Mandel believes the system needs not only to stimulate interactions and creativity, but also to treat the conversations as knowledge to preserve and enhance. The advantage of Caucus' fully threaded, Web-based system is that each message is a link, which makes weaving them together much easier. Remarkably, you can address any message or thread in Caucus with a URL (e.g., <http://screenporch.com/caucus/demo/14/130> takes you to item 130 in conference 14 of the Caucus demonstration conference on the Screen Porch server, as long as you have the proper permissions.)

 4 Mandel is not related to the late Tom Mandel of The WELL, SRI and Time Magazine on AOL.

What's inside is out

Mandel is working hard to invert -- or at least subvert -- two aspects of the existing mental model for online discussions. The first is that conversations occur inside the Web; the second is that you must go to a special place to have a conversation. Caucus' architecture allows you to attach a conversation to anything, and anything to a conversation.

So forget the idea that you must travel to a conversation space and enter it, then find your way to the last response and participate. Just leave links to conversations where the action is. And forget the idea that conversations happen in impoverished, plain-text screens. Mandel wants to see all Web things occur inside conversations, so Caucus makes it easy to upload files and other information objects to its conferences, including spreadsheets, video clips, presentations and other arbitrary objects.

Under the hood

Charles Roth, who spent the last decade building conferencing systems, is the system's principal architect and developer. He created the Caucus Markup Language (CML), a mix of Perl, Visual Basic and HTML that includes full programming structures that output dynamic Web pages. Like most companies in its situation, Caucus is contemplating a move to Java. It is also interested in enhancing connectivity to corporate data and replacing its custom back-end text database. A single-server license of Caucus is \$1800.

Screen Porch is self-funded. Recently Mandel, a published poet, redid its business plan (in prose). He is now looking for funding and new business partners. Given how dramatic the change is from the old Caucus to the new, it looks like Mandel and Roth have written a new lease on life for Caucus.

WEB CROSSING: FOLLOWING THE KISS PRINCIPLE

Tim Lundeen earned an engineering degree from MIT in 1970, then went to work at Davong making hard disks until he realized that he didn't want to be in the hardware business. From there, he developed a peer-to-peer LAN system that he sold to Ungermann-Bass, and then he got a contract to write Micro-soft Works for the Mac. In 1986, he started Lundeen & Associates to develop personal productivity and communications software.

As the Net and the Web got popular, Lundeen saw an opportunity to come out with next-generation discussion software. Competitive products had clunky newsgroup interfaces. So he designed Web Crossing to be an easy-to-use system that would draw people in. It first shipped in November 1995. Now it's in use at many notable sites across the Net, including Excite, Salon (for its TableTalk section), the New York Times, Chicago Tribune (and subsidiaries) and the Minneapolis Star-Tribune. All told, Lundeen estimates more than 500,000 registered users among his 500 licensees.

Simplicity above all

Two features distinguish Web Crossing: its simplicity and its object-oriented back-end. Lundeen deliberately chose to give Web Crossing a sparse interface, with only a half-dozen buttons on screen at any time. Yet the system still offers strong navigation and editing.

Based on lessons Lundeen learned developing personal productivity tools, Web Crossing uses a custom object-oriented database that is carefully tuned for online conversations. For example, it caches users, messages and topic hierarchies in RAM to minimize disk I/O. The system is streamlined to know who wrote a message, what the message contains and what a user's preferences and settings are, so it can present the message properly for each individual. Lundeen notes that a relational database would consume far more computing resources to do the same task.

The company expects to release a new version of Web Crossing by the end of January. It will include a search engine, support for multiple redundant servers and a Java-enabled chat function. Lundeen expects chat to act as an entertainment vehicle, while substantive discussions take place in the forum threads. Longer-term plans include adding e-mail notification when new content arrives in a Web Crossing database and integrating Web Crossing with list servers and newsgroups by mirroring their contents.

Lundeen considers his nearest competitors to be Motet and Proxicom's Proxicom Forum (formerly Proxima's Podium). He would like to sell more in corporate markets. Currently, 30 to 50 percent of his licenses go behind firewalls on private corporate networks; distance-learning applications are another large category. Web Crossing 2.0 costs \$995 and runs on all major platforms; the Pro version, which offers redundant servers and other features, costs \$5000. Lundeen & Associates is privately held. Lundeen is open to alliances or acquisition offers, though he is not looking for them.

POWER TOOLS

As long as people are in conversation online, why not add some higher-function features to their conversation space? This is easier to do when the system is built completely in Web tools, which is Caucus' approach.

For example, one could add a vote-taking and -tabulating feature that would allow show hosts to poll audiences on the fly. One could add feedback widgets that allow participants to rate any items at all, much the way collaborative filters allow people to rate movies, music and other items today, except put in the hands of the participants (see **Release 1.0**, 11-96).

Business groups could certainly benefit from voting and feedback mechanisms, but they may want additional structure for particular kinds of tasks or conversations. Developers have already created tools that use argumentation theory⁵ (gIBIS, the graphical Issue-Based Information System, since renamed Corporate Memory Systems' CM-1; see **Release 1.0**, 8-92), document markup (WebFlow), workflow (Notes, RadNet, Action Technologies and Staffware), collection collaboration (Intraspect) or other features. These tools, any of which could be one link away from a less structured conversation tool, are fodder for a future issue.

 5 Steven Toulmin developed argumentation theory that offers a structured framework within which discussants posit hypotheses; supporting, opposing and synthesizing arguments; and conclusions. Several software tools have made use of Toulmin's framework.

RESOURCES & PHONE NUMBERS

Barry Appelman, **AOL**, (703) 453-4050; appelman@aol.com
 David Woolley, **Chrysalis Software**, (612) 374-2664; fax, (612) 374-2731;
 drwool@skypoint.com
 Mike Godwin, **EFF**, (510) 548-3290; mnemonic@well.com
 Howard Rheingold, **Electric Minds**, (415) 388-3912; hlr@well.com
 Andrew Busey, **iChat**, (512) 427-2211; busey@ichat.com
 Tim Lundeen, **Lundeen & Associates**, (510) 521-8228; fax, (510) 522-6647;
 tlundeen@lundeen.com
 Steve Glenn, **PeopleLink**, (310) 581-4299; fax, (310) 581-0020;
 steveg@peoplelink.com
 Bill Shott, **PlaceWare**, (415) 944-0900; shott@placeware.com
 Tom Mandel, **Screen Porch**, (202) 362-1679; tmandel@screenporch.com
 Maria Wilhelm, **WELL Engaged**, (415) 332-4335; fax, (415) 332-9355;
 maria@well.com

David Woolley's Web conferencing resource site is at
<http://freenet.msp.mn.us/drwool/webconf.html>

COMING SOON

- Concept mapping tools.
- Navigation and representation.
- The analog world.
- And much more... (If you know of any good examples of the categories listed above, please let us know.)

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1997

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- February 26-28** **Internet Expo** - Zurich, Switzerland. Sponsored by Compress Information Group. Call 41 (6) 1 722 77 00; fax 41 (6) 1 77 22 01; info@compress.ch; www.iex.ch.
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- March 9-12** **Support Services East** - Nashville. Sponsored by Softbank Expos. Network, network, network! Call (800) 801-1354; fax (719) 528-4252; csc@sbexpos.com; www.sbexpos.com/ssce.
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- March 18-20** **Internet & Electronic Commerce** - New York City. Sponsored by Gartner Group and Expocon. Call Paul Sitar, (203) 256-4700 ext. 115; fax (203) 256-4730; psitar@expocon.com; www.expocon.com.
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- May 18-20** **Localization Conference** - Monterey, CA. Sponsored by Henes Associates. Mind-melding for localization and international product managers. Call Ulrich Henes, (608) 233-3380; fax (608) 233-3511; Ulrich.Henes@Msn.fullfeed.com.
- May 19-21** **Executive Technology Summit '97** - Phoenix. Hosted by SIM and Computerworld. Call Carrol-lyne Klein, (800) 464-0061 ext. 1741; fax (312) 494-3015; www.simnet.org.
- May 27-29** **Internet World Berlin '97** - Berlin. Sponsored by Mecklermedia. Contact Cecilia, cecilia@mecklermedia.com; www.iworld.com.
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June 9-14 **Asia TELECOM '97** - Singapore. Sponsored by ITU. Contact Tom Dahl-Hansen, 41 (22) 730 5298; fax 41 (22) 730 6444; dahl-hansen@itu.ch; www3.itu.ch/TELECOM/ast97/.

June 15-18 **Global Networking '97** - Calgary, Alberta, Canada. Sponsored by Telus. Call Pete Desrochers, (403) 493-4760; fax (403) 493-5380; pdesrocl@ent.agt.ab.ca; www.wnet.ca/gn97/; www.wnet.ca/gn97/.

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Sept 8-14 **Telecom Interactive** - Geneva. Sponsored by ITU. Contact Fernando A. Lagrana, 41 (22) 730 5542/5179; fax 41 (22) 730 6444; fernando.lagrana@itu.int; www.itu.ch/TELECOM.

** Events Esther plans to attend.*

@ Events Jerry plans to attend.

Lack of a symbol is no indication of lack of merit.

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Please let us know about other events we should include. -- Susanna Stromberg

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Biological organisms, ecosystems and social networks are fiendishly hard to control, predict or even describe. Sometimes what looks like a garden turns out to be a jungle, a desert or a crowded urban neighborhood. Humans complicate matters. As online marketplaces become more and more like the real world, marketing and social issues matter as much as technical ones.

Come celebrate the 20th annual PC Forum

This year's Forum -- the 20th -- will not be like every other year's Forum. We will certainly reflect on the past 20 years, which feel like a bygone era, but we will focus on the next 20 years -- well into the 21st century. Today's novelties will become invisible features of tomorrow's environment.

The PC Forum began when the PC was a novelty; now it's a commodity. Over the next 20 years today's novelty, the Internet, will fade into the infrastructure. What we once called the Personal Computer Forum now is the Platforms for Communication -- or Commerce or Community -- Forum. The PC in PC Forum has become part of a brand name rather than a meaningful term. But the brand name signifies something real: a challenging three-day exploration of the future of the digital marketplace and living space with participants who care about the shape, size and dynamics of those places.

The 1997 PC Forum, to be held in Tucson, Arizona, March 23-26, is open to subscribers to EDventure's newsletter, **Release 1.0**. If you have any questions, please call or e-mail Daphne Kis (212-924-8800; daphne@edventure.com). Come help us celebrate the industry's last 20 years and get ready for the next 20!

In order to have healthy markets, we need to address some of these "living" issues: anonymity and privacy; the government's proper role; the meaning of copyright, identity, personal data, brand names and other intellectual assets; the shape of competition; the way we find and assess content and people; and the maintenance of the infrastructure. These are age-old questions about control, ownership, responsibility and identity, played out in a novel medium that is itself changing. Online, all of these issues remain, but they take on a different nature.

For example, privacy is harder to guarantee, yet anonymity is easier to achieve. Privacy protects individuals; anonymity makes them disappear and leaves only intangible user IDs or avatars in their place -- avatars that can do and say what real people do and say, with all the consequences and little accountability.

Intellectual products can be reproduced almost cost-free; they retain their value, but can they retain their pricing? Two years ago, who had heard of Netscape, Yahoo or Amazon.com? But brand names are harder to establish in a fragmented and chaotic world -- which means they're worth more than ever.

Companies are searching for profitable online business models. The Net is already affecting fundamental business issues such as risk, trust, attention and service. Is the Net really going to create a profusion of intellectual wealth to be exploited, or will it simply reduce costs for those who have physical products and services to sell?

The disembodied world presents special challenges. We need metaphors and cues to guide us as we move from space to virtual space, assess information, communicate with one another, buy goods and services and spend time enjoying ourselves. Will our kids really be different from us in how they experience media? Many of us expect consumers to go online as active producers of content and interact with one another. But others see television as the true model for the new online media.

And finally, is the garden getting enough water and sunshine? Will the Net collapse? Or will market forces, personal initiative and occasional government programs protect it from the inevitable storms, invasions and plagues?

The Forum will bring together about 600 of your colleagues and competitors for three days of enlightening and provocative presentations, arguments and discussions about those questions and others -- plus the all-important business deals and social encounters.

Speakers include:

Jim Barksdale, Netscape
 Marilyn Bergman, ASCAP
 Roger Black, Interactive Bureau
 Michael Bloomberg, Bloomberg Inc.
 Steve Case, AOL
 Scott Cook, Intuit
 John Doerr, Kleiner Perkins Caufield & Byers
 John Hagel, McKinsey & Company
 Julf Helsingius, anon.penet.fi
 Tom Jermoluk, @Home
 *Reed Hundt, Federal Communications Commission
 Bob Metcalfe, IDG
 George Lakoff, UC Berkeley
 Steve Rattner, Lazard Freres
 Ben Rosen, founder, PC Forum and founding editor, **Release 1.0**
 Kyle Shannon, agency.com
 Christine Varney, Federal Trade Commission
 John Walter, AT&T

*invited

Company presentations include Accrue, Diffusion, Global Center, Intraspect Software, Throw, Vicinity and Zoomit. The Rumpus Room and the Forum Network will meld into themed "pods" that illustrate metaphors for cyberspace.

RELEASE 1.0

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Daphne Kis
Publisher